

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions and listings of claims in the application:

1-9. (Cancelled).

10. (Currently amended) A metathesis catalyst which includes comprising a phosphorus containing ligand which is a heterocyclic organic compound in the form of a phosphabicycloalkane with a ligating phosphorus atom as an atom in the heterocyclic ring structure of the heterocyclic organic compound.

11. (Currently amended) A compound of formula 3:



wherein

L1 is a neutral electron donor ligand;

L2 is a phosphorous containing ligand in the form of a heterocyclic organic compound in the form of a phosphabicycloalkane with a ligating phosphorus atom as an atom in the heterocyclic ring structure of the heterocyclic organic compound;

X1 and X2 are independently selected from an anionic ligand; and

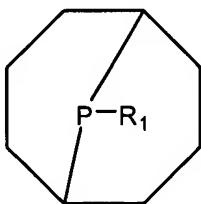
R' and R" are independently selected from H [[and]] or an organyl.

12. (Original) The compound of claim 11 which is a homogeneous metathesis catalyst.

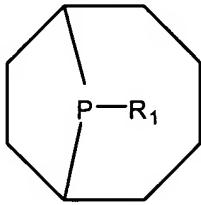
13. (Currently amended) The compound of ~~either one of claims~~ claim 11  
or 12 wherein  $L_1$  is the same as  $L_2$ .

14. (Currently amended) The compound of ~~any one of claims~~ claim 11 to  
13 wherein the phosphorus containing ligand of  $L_2$  comprises a phosphine ligand.

15. (Original) The compound of claim 14 wherein  $L_2$  is a  
9-phosphabicyclo[3.3.1]nonane, of formula 2a, or a 9-phosphacyclo[4.2.1] nonane of  
formula 2b or mixtures thereof:



[[.....]] (2a)



[[.....]] (2b)

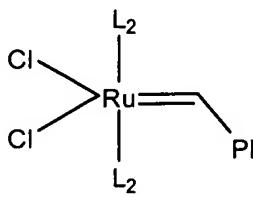
wherein  $R_1$  is H or an organyl.

16. (Original) The compound of claim 15 wherein  $R_1$  is  $-C_{20}H_{41}$ .

17. (Original) The compound of claim 15 wherein  $R_1$  is cyclohexyl.

18. (Currently amended) The compound of ~~any one of claims~~ claim 11 to  
17 wherein  $X_1$  and  $X_2$  are each ~~independently selected from a~~ halide.

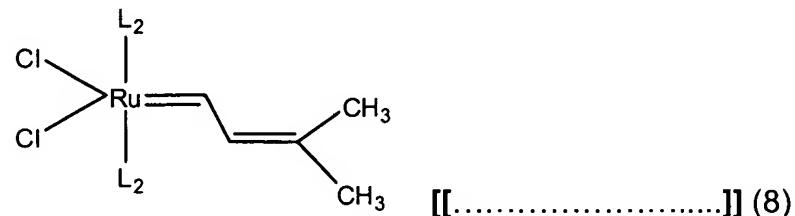
19. (Currently amended) The compound of claim 11 which is a  
compound of formula 7.



[[.....]] (7)

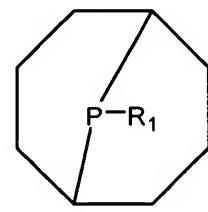
wherein  $L_2$  is the same or different and is as defined in claim 11.

20. (Currently amended) The compound of claim 11 which is a compound of formula 8

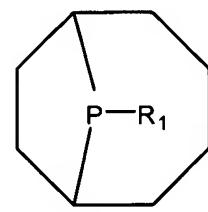


wherein  $L_2$  is the same or different and is as defined in claim 11.

21. (Currently amended) The compound of either one of claims claim 19 or 20 wherein  $L_2$  is as defined in claim 15 a 9-phosphabicyclo[3.3.1]nonane, of formula 2a, or a 9-phosphabicyclo[4.2.1] nonane of formula 2b or mixtures thereof:



(2a)

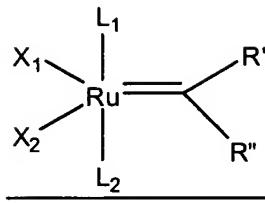


(2b)

wherein  $R_1$  is H or an organyl.

22-23. (Cancelled).

24. (Currently amended) A catalysed metathesis reaction wherein comprising subjecting at least one olefinic compound is subjected to metathesis in the presence of a compound of claim 3 formula 3:



(3)

wherein

L<sub>1</sub> is a neutral electron donor ligand;

L<sub>2</sub> is a phosphorous containing ligand in the form of a heterocyclic organic compound in the form of a phosphabicycloalkane with a ligating phosphorus atom as an atom in the heterocyclic ring structure of the heterocyclic organic compound;

X<sub>1</sub> and X<sub>2</sub> are independently selected from an anionic ligand; and

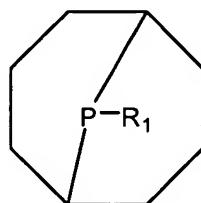
R' and R'' are independently selected from H [and] or an organyl.

25. (Currently amended) The catalysed metathesis reaction of claim 24

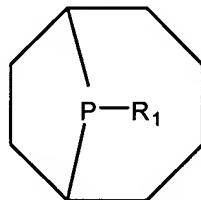
wherein the compound of ~~claim 11~~ formula 3 is formed in situ.

26. (Cancelled).

27. (New) the compound of claim 20 wherein L<sub>2</sub> is a 9-phosphabicyclo[3.3.1]nonane, of formula 2a, or a 9-phosphabicyclo[4.2.1] nonane of formula 2b or mixtures thereof:



(2a)



(2b)

wherein R<sub>1</sub> is H or an organyl.

28. (New) A catalysed metathesis reaction comprising subjecting at least one olefinic compound to metathesis in the presence of a metathesis catalyst comprising a phosphorus containing ligand which is a heterocyclic organic compound in the form of a phosphabicycloalkane with a ligating phosphorous atom as an atom in the heterocyclic ring structure of the heterocyclic organic compound.

29. (New) The catalysed metathesis reaction of claim 24 or 28, wherein the metathesis reaction is a homogeneous metathesis reaction selected from the group consisting of cross-metathesis, ring-opening metathesis polymerization and ring closing metathesis.